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large tubes of pyrex glass. Small tubes, up to about 20 mm. in diameter, yield readily to the usual file mark.

A well-known method for cutting large tubes of common glass is to make a file scratch round the tube, apply one turn of an iron wire held taut, and then heat the same to redness by an electric current.

This method, however, without modification, fails when attempting to cut pyrex tubes. The glass will simply not crack, and if the heating is pushed the hot wire usually sinks into the glass and finally fuses under the intense heat.

I was surprised recently to find that if the iron wire is replaced by a nichrome wire, say, of no. 14 or 16 gauge, the tube may be cut off by the incandescent wire in the same manner that a cake of soap is cut in two parts by means of a string.

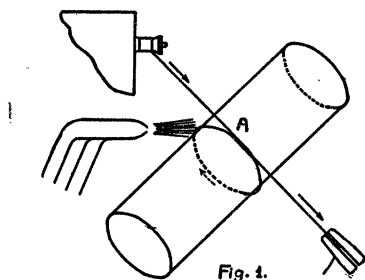


Fig. 1.

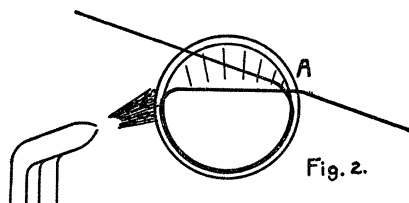


Fig. 2.

To insure success proceed as follows: Take a length of about one foot of nichrome wire, connect it up to a D. C. (or A. C.) dynamo current and include an adjustable tin resistance (for the current required must necessarily be large). The wire is held under tension by pulling on it with a pair of pincers, as shown in Fig. 1. Care must be taken not to let the two parts of the wire touch at A.

When all is in readiness, turn on the heating current and adjust same by means of the tin resistance until the wire glows a white heat. If now a blast from a hand torch be allowed to play on the wire and glass the tube may be cut as shown in Fig. 2. Be careful not to let the flame strike the glowing wire where it is not in contact with the glass for the extra heat will burn it. The object of the blast is to aid in softening the glass, and also to distribute the heat along the tube and thus prevent the freshly cut edges from checking due to the otherwise intense local heating. The burr of glass that results from the cutting may be removed by a file or on the grindstone.

Recently the neck of a twelve-liter pyrex Florence flask was cut off with the greatest ease. The diameter was about 60 mm., and the wall thickness about 2.5 mm.

CHAS. T. KNIPP

UNIVERSITY OF ILLINOIS

THE ILLINOIS STATE ACADEMY OF SCIENCE

THE twelfth annual meeting of the Illinois State Academy of Science was held at Jacksonville, Ill., on March 21 and 22, having been postponed a month on account of the prevalence of influenza.

Important items of business transacted were the following: It was voted that the academy become affiliated with the American Association for the Advancement of Science, on the plan proposed by the committee on affiliations, of the American Association. It was voted that the academy become affiliated with the Division of State Museum of the Department of Registration and Education of the State Government. It was voted that the academy seek affiliated relations with science clubs in high schools, colleges and elsewhere in the state and a committee was appointed to perfect a plan for such affiliations. A committee on secondary-school science instruction was appointed. This committee is to make annual reports to the academy and to ask the aid and cooperation of the academy in its efforts to further the interests of such instruction. It was voted to offer for sale to libraries and individuals, full sets of the ten volumes of transactions now published at \$5 per set.

Through the affiliated relation of the academy with the state museum, the former is practically guaranteed financial aid from the state for the

publication of its transactions. A bill providing one thousand dollars a year is now pending before the legislature, this item having been included in the budget submitted to the legislature by the governor.

The following is the program of papers and addresses presented at the meeting

PAPERS OF GENERAL INTEREST

Dr. H. S. Pepoon, Lake View High School, Chicago, "A proposed state park."

Dr. Chas. F. Millsbaugh, Field Museum, Chicago, "Botany in a public museum."

Dr. Frank C. Baker, University of Illinois, "The Museum of Natural History of the University of Illinois."

J. L. Pricer, State Normal University, "Current tendencies in science education in the secondary schools."

William A. Dunkley, Geological Survey Division, "The use of central district coals in water-gas manufacture."

Gilbert H. Cady, Geological Survey Division, "The Illinois pyrite inventory."

Mr. F. E. Kempton, University of Illinois, "The Barberry Eradication Campaign."

REPORTS ON THE FORESTRY SURVEY OF ILLINOIS

Professor S. A. Forbes, State Laboratory of Natural History, "General plans and purposes of the survey."

Professor W. S. Waterman, Northwestern University; Professor H. C. Cowles, University of Chicago; Miss Hazel Schmoll, University of Chicago, "The survey of Cook County."

Dr. H. S. Pepoon, Lake View High School, Chicago, "Jo Daviess County."

Dr. George D. Fuller, University of Chicago, "La Salle County."

Mr. O. D. Frank, Quincy High School, "Adams County."

Dr. W. B. McDougal, University of Illinois, "Vermilion County."

Dr. Arthur G. Vestal, Eastern State Normal School, Charleston, "Cumberland County."

Symposium on Science and Reconstruction: The effects of the war on science and the opportunities and responsibilities of science under the new order of things.

Dr. Roger Adams, University of Illinois, "Chemistry."

F. W. De Wolf, Chief of Division of Geological Survey, "Geology."

Professor John M. Coulter, University of Chicago, "Botany."

Professor Henry B. Ward, University of Illinois, "Zoology."

Dr. C. St. Clair Drake, Chief of Department of Public Health, "Medicine and public health."

Dean Eugene Davenport, College of Agriculture, University of Illinois, "Agriculture and food production."

PAPERS ON BOTANY

Professor William Trelease, University of Illinois, "The scarlet oak of northern Illinois."

Professor Henry C. Cowles, University of Chicago, "Some floristic and ecological features of the woodlands of Cook County."

C. Z. Nelson, Galesburg, "Studies in the North American *Opuntia*."

Dr. Geo. D. Fuller, University of Chicago, "Soil as a limiting factor of forests in La Salle County, Illinois."

Dr. W. B. McDougal, University of Illinois, "Some mushrooms which are rare or have not previously been reported from Illinois."

Clarence Bonnell, Harrisburg Township High School, "The occurrence of a white form of *Tradescantia virginica*."

PAPERS ON ZOOLOGY

Dr. Frank C. Baker, University of Illinois, "A mussel survey of the upper waters of the Vermilion River, with special reference to Salt Fork."

Professor T. L. Hankinson, Eastern State Normal School, Charleston, "Life history notes on Illinois fish."

Dr. H. J. Van Cleave, University of Illinois, "Preliminary survey of the Acanthocephala from fishes of the Illinois River."

Theodore H. Frison, University of Illinois, "Keys for the separation of the Bremidæ, or bumblebees of Illinois, and other notes."

Miss Marion J. Miller, Illinois College, "Observation of the Kentucky Cardinal."

Anne Wakely Jackson, Illinois College, "Bird songs."

A special illustrated address on Porto Rico was given by Dr. R. D. Salisbury, president of the academy, and one by Dr. Josephine Milligan, of Jacksonville, on the work of the Red Cross among the civilian population of France.

The officers elected for the ensuing year are the following: *President*—Dr. Henry B. Ward, of the University of Illinois; *Vice-president*—Dr. Geo. D. Fuller, of the University of Chicago; *Secretary*—J. L. Pricer, of the State Normal University, Normal; *Treasurer*—Dr. W. G. Waterman, of the Northwestern University.

J. L. PRICER,
Secretary

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